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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,434	01/12/2001	Kiyomi Tamagawa	Q62617	8546

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EXAMINER	
NGUYEN, MADELEINE ANH VINH	
ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/758,434	TAMAGAWA, KIYOMI	
	Examiner	Art Unit	
	Madeleine AV Nguyen	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,18 and 21* is/are rejected.

7)☒ Claim(s) *16,17,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to amendment filed on November 12, 2004.

Applicant amends claims 3, 4, 5, 9, 10, 11, and add new claims 16-21.

Response to Arguments

1. Applicant's arguments filed on November 12, 2004 have been fully considered but they are not persuasive.

2. For the 35 USC 112 rejection, it is noted that claims 3-5, 9-11 are not rejected because of the insufficient antecedent basis but because they are indefinite. For instance, in claim 3, the question is raised on what is the subject of "constituting the color association definition", "the first color data", or "the second color data", or both of "the first color data" and "the second color data", or anything else. The same with other issues raised in claims 3-5, 9-11.

3. Applicant remarks that in the claimed invention, it is the second color data, representative of coordinates on a common color space, such as XYZ color space, that is smoothed. However, in Rozzi, it is the data in an index space, such as a calibrated RGB color space, that is smoothed.

In claim 1, the smoothing step is stated as "a smoothing step of smoothing the second color data representative of coordinates on the common color space to the first color data representative of coordinates on the device-dependence color space." Rozzi teaches that "the computer arrangement 10 converts integrated device-independent values into the index space using the transformation defined by the set of procedures 22 and stored the index color space values in the measurement table. The computer arrangement 10 then generates the render table

20 at block 118 by **inverting** the measurements table to generate a table of device coordinates indexed by, for example, calibrated RGB values.... After the device coordinates are computed for the entries in the render table 20, the computer arrangement 10 optionally applies a smoothing filter, such as a simple triangle kernel, to the render table 20 at a block 120. Smoothing the table reduces the likelihood of discontinuities in printed color gradients." (col. 7, lines 40-61). In addition, claims 7 and 8 include the steps of "**inverting** the first table to generate a second table" and "applying a smoothing filter to the second table" (col. 11, lines 23-29). Thus, since the render table 20 is generated by inverting the table of conversion from the independent color space XYZ to the dependent color space RGB, it would have been obvious to one skilled in the art at the time the invention was made to consider the smoothing means or step in Rozzi teaches the smoothing of the second color data of an independent color space to the first data of a dependent color space as claimed since the rendering table is the inverted conversion of the conversion of the second data of the independent color space to the second data of the dependent color space and from the Background of the Invention, it is a matter of well known in the art to have "Output devices, such as printers or CRTs, sometimes have associated profiles that describe how to translate reference color space values into the device coordinate values that most closely match the original" (the reference color space is XYZ color space), (col. 2, lines 2-12). In addition, since the smoothing process is for reducing the discontinuities, it a matter of well known in the art whether to smooth the image data in independent color space or in dependent color space or before the color space conversion or after the color space conversion. In one of the previously cited references, Kita et al (US Patent No. 5,331,440), the smoothing process is done with image data in independent color conversion. Kita teaches a color

conversion table 5-1 (Fig.1) representing the corresponding relationship between the independent color space (L*a*b*) and the dependent color space (Y, M, C) while "smoothing is applied to the color conversion table 5-1 to compensate for the non-conservation of continuity" (col. 13, lines 6-42). Moreover, Walowit (US Patent No. 4,941,038) discloses the step of smoothing the device independent color input values or output values for discontinuities between subspaces (col. 9, lines 42-65; col. 14, lines 24-39).

Therefore, the rejections under 35 USC 112 and 35 USC 103(a) are maintained.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What is "constituting the color association definition" (line 5)? For instance, what is the subject of "constituting the color association definition", "the first color data", or "the second color data", or both of "the first color data" and "the second color data", or anything else. The same with what are "more than the number to pairs of the mutually associated first color data and the smoothed second color data" (lines 14-15); or what subject does "which" represent: the profile construction step, a profile, the new color association definition, the pairs of the first color data and the second color data or anything else. In addition, what is "constituting the new color association definition" (lines 16-17); or the subject of "constituting the new color association definition": the profile construction step, a profile, the new color association definition, the pairs

of the first color data and the second color data, the first color data or the smoothed second color data, or anything else.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What is "constituting the color association definition" (line 17), what are "equal in number to pairs of the mutually associated first color data and the second color data" (lines 18-19), what is "constituting the finally produced profile" (lines 20-21)?

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What are "equal in number to pairs of the mutually associated first color data and the second color data" (lines 9-10), what is "constituting the finally produced profile" (line 10). What is "constituting the color association ..." (lines 16-17)?

The same with claims 9, 10, 11. Clarification is needed.

5. The following rejection is based on examiner's best interpretation of the claims due to the rejection under 35 USC 112 of claims 3-5, 9-11.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rozzi (US Patent No. 6,072,589).

Concerning claims 1 and 8, Rozzi discloses a profile producing method and apparatus of producing a profile representative of an association between a first color data representative of coordinates on a device-dependence color space (RGB) dependent on a device mediating between image data including color data and a color image, and a second color data representative of coordinates on a common color space independent devices (XYZ), said profile producing method and apparatus comprising a color association definition obtaining step or means of obtaining color association definition defining an association between the first color data and the second color data (16, 10, Fig.1; Fig.3A); a profile producing step or means of producing a profile defining an association between the first color data and smoothed second color data via a smoothing step (10, 18, Fig.1; Fig.3B), (col. 1, line 61 – col. 2, line 5; col. 5, lines 31-43; col. 7, lines 23-61; col. 11, lines 15-29).

Rozzi does not directly teach that the smoothing of the second color data representative of coordinates on the common color space (XYZ) to the first color data (RGB). However, Rozzi teaches a smoothing filter which smooths the render table 20 which is a second table of converting RGB color space values to XYZ color space values (col. 7, lines 45-61; col. 11, lines 15-32). It would have been obvious to one skilled in the art at the time the invention was made to consider the smoothing means or step in Rozzi teaches the smoothing of the second color data (XYZ) to the first color data (RGB) since the rendering table is the inverted conversion of the first table which converts the independent color space XYZ to the dependent color RGB wherein

since the smoothing process is for the discontinuities of image color data, the smoothing can be done on the device independent color space or on the device dependent color space.

Concerning claims 2-7, 9-15, Rozzi further teaches that the color association definition obtaining step comprises a color chart producing step of causing an output device (14) to output a color chart composed of a plurality of color patches, a color chart colorimetry step or means (spectrophotometer or calorimeter) of measuring a plurality of color patches to determine the second color data (col. 4, lines 66 – col. 5, line 25), (claim 2); a smoothing step or means (smoothing filter 120, Fig.3B) of smoothing the second color data to determine a new color association definition defining an association between the first color data and smoothed second color data, a profile construction step of constructing a profile in accordance with the new color association (Fig. 3B; col. 7, lines 30-61), (claims 3, 9); a color association definition reconstruction step or means of producing new color association definition consisting of pairs of the first color data and the second color data, a smoothing step of smoothing the second color data to the first color data (Fig. 3B; col. 7, line 45 – col. 8, line 14), (claims 4, 10); the color association definition obtaining step or means is a step or means of obtaining a color association definition consisting pairs of the first and second color data which are equal in number to pairs of the mutually associated first and second color data (Fig.1; col. 4, lines 14-58), (claims 5, 11); the smoothing step is a step of performing a smoothing on a partial area on a color space or on a high density area on color space (col. 4, lines 27-44; col. 7, lines 56-61), (claims 6-7, 12-13); the profile producing apparatus comprises a handler (16) for designating an area to be subjected to the smoothing processing (col. 4, lines 27-44), (claim 14).

Concerning claim 15, Rozzi fails to directly teach a display section for displaying an area for which a smoothing processing is necessary. However, Rozzi teaches a computer system 10 (Fig.1) connected to the printer 14, printer model 16 and device profile 18 for generating a device profile. As a matter of well known in the prior art, any conventional computer system has a display section or a monitor. It would have been obvious to one skilled in the art at the time the invention was made to modify the computer system 10 having a display section for displaying an area for which a smoothing processing is necessary since Rozzi teaches that "Smoothing the table reduces the likelihood of discontinuities in printed color gradients." (col. 7, lines 56-61), thus only regions with discontinuities in printed color gradients are smoothed.

8. Claims 18, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rozzi as applied to claims 1 and 8 above, and further in view of Walowit (US Patent No. 4,941,038).

Concerning claims 18, 21, Rozzi fails to teach in details that in the smoothing step, both range and method are selectable. However, it was commonly known in the art that there are different ranges and method for a smoothing procedure which are needed to be selected for different devices, different purposes. For instance, Walowit discloses a method of converting input color data of an input device to color data of an intermediate color space (independent color space) and for converting the color data of the intermediate color space to the color data of an output device wherein the device independent color input values are smoothed for discontinuities between subspaces wherein the range (subspace) and the method (interpolation, averaging) are selected (col. 9, lines 43-64; col. 14, lines 9-39). It would have been obvious to tone skilled in the art at the time the invention was made to combine the teaching of the smoothing procedure in Walowit to the smoothing procedure in Rozzi since both of them teach

the conversion of color data from a device dependent color space to a device independent color space or vice versa.

Allowable Subject Matter

9. Claims 16, 17, 19, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is an Examiner's Statement of Reasons for Allowance: Claims 16, 17, 19, 20 are allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior art which teaches a profile producing method and apparatus as claimed in claims 1 and 8 wherein the smoothing step of or means for using the horizontal axis to denote dot % values of a first color data; using the vertical axis to denote chromaticity values of a second color data; obtaining a curve approximating data before the smoothing step or obtaining at least two data before the smoothing step; and moving the data before the smoothing step on the curve or obtaining an average of the at least two data before the smoothing step.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

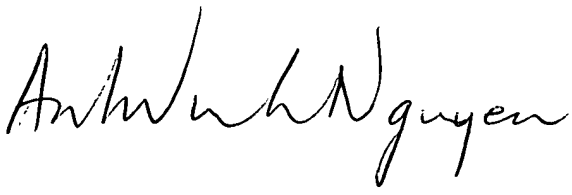
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 571 272-7466. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 571 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Madeleine AV Nguyen
Primary Examiner
Art Unit 2626

April 5, 2005